

Listing of Claims

1. (Currently Amended) A method of selecting a transmission antenna in ~~In~~ a packet transmission system having multiple antennas, ~~a method of selecting a transmission antenna,~~ comprising the steps of:

transmitting a data block through a first one of a plurality of sequentially selected antennas;

receiving a first signal indicating that an error occurred during transmission or
reception of the data block;

interrupting sequential selection of the plurality of antennas to select a second one
of the plurality of antennas in response to the first error signal; and

~~if error occurs in the transmitted data, retransmitting the corresponding erroneous~~
data block through the second one of the plurality of antennas.
2. (Currently Amended) The method of claim 1, wherein ~~each of the data~~
~~transmission and retransmission steps further comprises the step of checking~~ the first error
signal indicates whether a receiver correctly received ~~receives~~ the data transmitted through the
first one of the plurality of antennas.
3. (Canceled)

4. (Currently Amended) The method of claim 1 ~~[[3]]~~, wherein the first error response signal is ~~an~~ a non-acknowledgment signal transmitted from a receiver of a physical layer.

5. (Canceled)

6. (Currently Amended) The method of claim 1 ~~[[5]]~~, ~~after the retransmission of erroneous data step~~, further comprising the steps of: sequentially selecting the antennas again; ~~and transmitting a consecutive sequence of additional data blocks rest of the data through the~~ second one of the plurality of selected antennas.

7. (Currently Amended) The method of claim 6 ~~[[5]]~~, ~~wherein the specific antenna is one of the antennas except the antenna having performed initial transmission of erroneous data~~ further comprising:

receiving a second error signal indicating that one of the additional data blocks was transmitted or received in error; and

interrupting the consecutive transmission of the additional data blocks in response to the second error signal; and

transmitting one or more subsequent data blocks through a third one of the plurality of antennas, wherein the third one of the plurality of antennas is same is the first antenna or is different from the first antenna and the second antenna.

8. (Canceled)

9. (Currently Amended) The method of claim 1 ~~[[8]]~~, wherein the data block is retransmitted in consecutive sequence with an additional data block initially transmitted by the second one of the plurality of antennas ~~specific antenna is one of the antennas causing no transmission error.~~

10. (Currently Amended) The method of claim 2 ~~[[8]]~~, wherein the rest of the data is kept being transmitted until other data transmission error occurs further comprising:
resuming sequential selection of the plurality of antennas after the data block is retransmitted through the second one of the plurality of antennas; and
transmitting additional data blocks through the sequentially selected antennas.

11. (Currently Amended) The method of claim 1, wherein transmission and retransmission of the data block are ~~transmission is~~ downlink transmissions.

12. (Currently Amended) The method of claim 1, wherein transmission and retransmission of the data block occurs through the packet transmission ~~is based on~~ a mobile communication system.

13. (Currently Amended) The method of claim 12, wherein ~~the packet transmission system performs the transmission according to~~ an open loop transmit diversity technique is used to transmit data in the mobile communication system..

14. (Currently Amended) The method of claim 13, wherein the open loop transmit diversity technique is a ~~packet transmission system performs the transmission according to~~ TSTD (time switched transmit diversity) technique.

15. (Currently Amended) The method of claim 1, wherein the first an error signal is received based on an ~~control method of~~ ARQ (automatic repeat request) from a receiver is applied to the packet transmission system.

16. (Currently Amended) A method of selecting a transmission antenna in ~~In~~ a packet transmission system having multiple antennas, ~~a method of selecting a transmission antenna,~~ comprising:

transmitting a data block to a receiver through a first antenna;

checking a first response signal of the ~~the~~ receiver; and

if the first response signal is a retransmission request signal, retransmitting the ~~corresponding erroneous data block~~ through a second ~~specific~~ antenna.

17. (Currently Amended) The method of claim 16, ~~the checking step further comprising the steps of:~~

sequentially selecting the multiple antennas including the first antenna and the second antenna, said sequential selection taking place before the first response signal is checked
~~transmitting data through the selected antenna; and receiving to check the response signal of the receiver.~~

18. (Canceled)

19. (Currently Amended) The method of claim 16 ~~[[18]]~~, ~~after the retransmission step, further comprising the steps of: sequentially selecting the antennas again; and transmitting a~~
consecutive sequence of additional data blocks ~~rest of the data~~ through the second selected antenna.

20. (Currently Amended) The method of claim 19 ~~[[18]]~~, ~~wherein the specific antenna is one of the antennas except the antenna having performed initial transmission of erroneous data~~ further comprising:

receiving a second response signal indicating that one of the additional data blocks was transmitted or received in error; and

interrupting the consecutive transmission of the additional data blocks in response

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to the second response signal; and

transmitting one or more subsequent data blocks through a third antenna, wherein the third antenna is same as the first antenna or is different from the first antenna and the second antenna.

21. (Canceled)

22. (Currently Amended) The method of claim 17 [[21]], wherein the data block is retransmitted in consecutive sequence with an additional data block initially transmitted by the second antenna ~~specific antenna is one of the antennas causing no transmission error.~~

23. (Currently Amended) The method of claim 22 [[21]], ~~wherein the rest of the data is kept being transmitted until other data transmission error occurs~~ further comprising:

resuming sequential selection of the plurality of antennas after the data block is retransmitted through the second antenna; and

transmitting additional data blocks through the sequentially selected antennas.

24. (Currently Amended) The method of claim 16, wherein transmission and retransmission of the data block are ~~transmission is~~ downlink transmissions.

25. (Currently Amended) The method of claim 16, wherein ~~the packet transmission system performs the transmission according to~~ an open loop transmit diversity technique is used to transmit data in the mobile communication system..

26. (Currently Amended) The method of claim 25, wherein the open loop transmit diversity technique is a ~~packet transmission system performs the transmission according to~~ TSTD (time switched transmit diversity) technique.

27. (Currently Amended) The method of claim 16, wherein the first response ~~an error signal is received based on an~~ control method of ARQ (automatic repeat request) from a receiver ~~is applied to the packet transmission system.~~

28. (Original) The method of claim 27, wherein the response signal is ACK or NACK signal according to ARQ.

29. (Canceled)